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ABSTRACT--INMM ANNUAL MEETING 1996

ASSESSING THE INTEGRITY OF LOCAL AREA NETWORK MATERIALS ACCOUNTABILITY SYSTEMS AGAINST INSIDER THREATS*

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DOE facilities rely increasingly on computerized systems to manage nuclear materials accountability data and to protect against diversion of nuclear materials or other malevolent acts (e.g., hoax due to falsified data) by insider threats. Aspects of modern computerized material accountability (MA) systems including powerful personal computers and applications on networks, mixed security environments, and more users with increased *knowledge, skills and abilities* help heighten the concern about insider threats to the integrity of the system. In this paper, we describe a methodology for assessing MA applications to identify ways of preventing or mitigating possible additional risks from the insider threat in a cost-effective manner. We illustrate how the methodology is applied to local area network materials accountability systems. The methodology comprises a detailed yet practical taxonomy for characterizing various types of MA system/software features and their implementation options. The methodology assists managers and policy makers by providing them with a pragmatic rational approach for: i) systematically identifying appropriate sets of protection features and ii) selecting options based on tradeoffs among operations concerns, cost savings, and the relative strengths and weaknesses of alternative controls in assuring the integrity of accountability systems.

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